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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,911	12/14/2004	Rene Martinus Maria Derkx	NL 020516	6884

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EXAMINER

SINGH, RAMNANDAN P

ART UNIT PAPER NUMBER

2614

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/517,911	Applicant(s) DERKX ET AL	
	Examiner Ramnandan Singh	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2006.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-7 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Final Rejection</u> . |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on Jun 27, 2006 have been fully considered but they are not persuasive.

(i) Applicant's argument—"The echo-canceller of the present invention as claimed in claim 1, comprises a dedicated non-stationary echo canceller. Reesor in not believed to teach or suggest any feature" on page 4, Para: 6.

Examiner's response—In response to the first part of the applicant's argument, Examiner respectfully disagrees. In this respect, Applicant is directed to the rejection of claim 1 set forth in the Office action. Regarding the second part of the Applicant's argument, claim 1 does not recite any feature to differentiate the Applicant's invention from that of Reesor. In fact, claim 1 is simply a broad claim reciting the limitation " a dedicated non-stationary echo canceller".

(ii) Applicant's argument---"In particular, a non-stationary echo canceller, as made clear in the specification at page 4, lines 20-27, for example, cancels echo components whose shape and amplitude do not alter substantially over time. As described further on page 5, lines 6-9,suppressed" on page 4, Para: 7.

Examiner's response---In response the above argument, it may be noted that claims do not recite any features as noted above in the specification by the Applicant. Further, although the claims are interpreted in light of the specification, limitations from specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(iii) Applicant's argument—"In Reesor, on the other hand, a simple low-pass FIR filter is used as the NLP. Such a simple structure is unable to discriminate between noise components and cannot be said to correspond to the non-stationary echo canceller of claim 1" page 5, Para: 1.

Examiner's response-----In response to the above argument, Applicant is respectfully directed to the Examiner's response above in section (ii).

(iv) Correction to the Applicant's REMARKS:----

On page 4, Para: 4, REMARKS states : " Claim 7 was rejected as being directed to non-statutory subject matter." This is in error. Claim 9 was rejected as being directed to non-statutory subject matter, not claim 7.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Reesor et al [GB 2330745 A].

Regarding claim 1, Reesor et al teach an echo canceller, as shown in Fig. 1, the echo canceller comprises a dedicated non-stationary echo canceller (i.e. a new non-linear processor (NLP)) shown in Fig. 2 [Page 9, lines 1-8].

Regarding claim 2, Reesor et al further teach the echo canceller, wherein the non-linear echo canceller comprises a stationary echo estimator (i.e. noise estimator) [Fig. 2; page 9, line 23 to page 10, line 26] and/or a non-stationary echo estimator (i.e. echo tail estimator) [Fig. 2; page 13, line 7 to page 14, line 19].

Regarding claim 3, Reesor et al further teach the echo canceller, wherein the stationary echo estimator is a stationary noise estimator [Fig. 2; page 9, line 23 to page 10, line 26].

Regarding claim 5, Reesor et al further teach the echo canceller shown in Fig. 1, the echo canceller comprises an adaptive filter and a residual echo processor (i.e. NLP) coupled to the adaptive filter, which residual echo processor is equipped with the non stationary echo canceller (i.e. echo tail controller) [Fig. 2; page 9, lines 1-8; page 13, line 7 to page 14, line 19].

Regarding claim 7, Reesor et al further teach the echo canceller for communication device, such as for example a speakerphone or teleconferencing device, a telephone device, in particular a mobile telephone, a hands-free telephone or

the like [page 1, lines 4-7; page 4, lines 3-7] , characterized in that the communication device comprises one echo canceller [Figs. 1-2]. Here Examiner assumes one echo canceller that meets the limitation "one or more echo cancellers" as claimed.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reesor et al as applied to claim 3 above, and further in view of Martin [Signal Processing VII, EUSIPCO, pages 1182-1185, Edinburgh (Scotland, UK), Sept. 1994].

Regarding claim 4, although Reesor et al teach that the noise level can be estimated with any common, noise level detection algorithm [Page 10, lines 3-5], they do not teach expressly a specific algorithm to estimate stationary noise. So one of ordinary skill in the art would have been motivated to seek any known algorithm that estimates stationary noise, such as a Martin's algorithm

Martin teaches an algorithm based on spectral subtraction using minimum statistics to estimate a noise floor [Fig. 2; Section 2 through Section 4].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the algorithm of Martin with Reesor et al in order to estimate a noise floor for both stationary and non-stationary noise without using a speech activity detector [Marin: Section 5 (conclusion), lines 1-3].

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reesor et al as applied to claim 1 above, and further in view of Genter [US 5,293,784].

Regarding claim 6, Reesor et al do not teach expressly the echo canceller wherein the echo canceller comprises comfort noise inserting means.

Genter teaches an echo canceller (20) shown in Fig. 1, wherein non-linear residual echo suppressor (82) comprises comfort noise (i.e. artificial noise) inserting means [Figs. 1-2; col. 4, lines 16-26; col. 6, line 50 to col. 8, line 22].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Genter with Reesor et al in order to inject comfort noise into the nonlinear suppressor so that the average level in spite of the variation in operation of the non-linear processor which occurs with the presence or absence of a signal from the near-end speaker and the far-end speaker, respectively is maintained [Genter: col. 1, lines 24-30].

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramnandan Singh
Examiner
Art Unit 2614



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SUPERVISORY PATENT EXAMINER